BellAIR, Inc.

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HARRIS
SOLDERING, BRAZING & WELDING PRODUCTS

UNIBRAZE
SUBSIDIARY OF J.W. HARRIS CO. INC.

MATERIAL SAFETY DATA SHEET

BRAZING FLUXES
Stay Silv White Brazing Flux, Stay Silv Black Brazing Flux

SECTION 1 - MATERIAL IDENTIFICATION

Manufacturers Name **J. W. Harris Co., Inc.** Distributor Name (If Applicable) BellAIR, Inc.

Address **10930 Deerfield Road**

Address **Cincinnati, Ohio 45242**

Emergency Telephone **(513) 891-2000**

MSDS Date **November 1985**

SECTION 2 - HAZARDOUS MATERIALS

Composition	% wt.	CAS#	PEL[1]	TLV[2]
Boric Acid (Boron Oxide H_3BO_3)	over 5%	1303-86-2	15.0	10.0
Borates (anhydrous)	over 25%	1303-96-4	None	1.0
Fluorides, Fluoborates as F	over 25%	Not Listed	2.5(3)	2.5(3)
Water				

(1) Permissable exposure limit OSHA 29CFR 1910.1000 Subpart Z
(2) Threshold limit value American Conference of Government Industrial Hygenists
(3) A decomposition product may be HF (CAS #7664-39-3) which has a TLV of 2.5 mg/m^3.

SECTION 3 - PHYSICAL DATA

Stay Silv White Brazing Flux — White Paste - No odor.
Stay Silv Black Brazing Flux — Brown/Black Paste - No odor.

SECTION 4 - FIRE AND EXPLOSION DATA

Nonflammable material. When heated the material may release fluorides in the fume which may be hazardous.

SECTION 8 AND 9 - SPECIAL PROTECTION INFORMATION AND PRECAUTIONS

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, *Safety in Welding and Cutting* published by the American Welding Society, P.O. Box 351040, Miami, FL 33135 and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Washington, D.C. 20402 for more detail on many of the following.

Ventilation
Use enough ventilation, local exhaust at the flame to keep the fumes and gases below TLV's in the worker's breathing zone and the general area. Train the employee to keep his head out of the fumes. See ANSI/ASC Z49.1 Section 5.

Respiratory Protection
Use respirable fume respirator or air supplied respirator when brazing in confined space or where local exhaust or ventilation does not keep exposure below TLV.

Eye Protection
Wear goggles or use face shield with filter lens of appropriate shade number (see ANSI/ASC Z49.1 -Section 4.2). Provide protection screens and flash goggles, if necessary, to shield others. Wear face shield if splashing is probable.

Protective Clothing
Wear head and body protection which help to prevent injury from splashing, sparks, or flame. See ANSI Z49.1. At a minimum this includes gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, etc.

HARRIS

J. W. HARRIS CO., INC. | 10930 DEERFIELD ROAD | CINCINNATI, OHIO 45242 | 513-891-2000
UNIBRAZE CORP. | 7502 WEST STATE RT. 41 | COVINGTON, OHIO 45318 | 513-473-2001

SECTION 5 - HEALTH HAZARD DATA

Exposure - Section 2 covers ingredients and exposure limits on Stay Silv White and Stay Silv Black Brazing Flux. See section 6 for additional information. Actual exposure limits should be determined by monitoring the fume in the operator's breathing zone.

Primary Route of Exposure - Inhalation of fume. Skin or eye contact is also possible.

Possible Effects of Exposure - Fumes are irritating to skin, eyes and the respiratory tract.

Emergency First Aid - Remove from fume exposure. If breathing has stopped perform artificial respiration. If swallowed, induce vomiting. Never give anything by mouth to an unconscious person. For skin contact, wash with water. For eye contact, immediately flush eyes for 15 minutes with plenty of water. Get medical attention for any irritation.

Other Health Considerations - Fluxes are used with brazing filler metals. When melted, these filler metals may produce fumes which are hazardous. Filler metals may contain cadmium. Fume generated during brazing with cadmium alloys may be toxic. Consult the material safety data sheets that pertain to these products.

SECTION 6 - REACTIVITY DATA

Hazardous Decomposition Products

Brazing fumes and gases cannot be classified simply. The composition and quality of both are dependent upon the metal being brazed, the process, procedures, and filler metals used. Other conditions which also influence the composition and quality of the fumes and gases to which workers may be exposed include: coatings on the metal being brazed (such as paint, plating, or galvanizing), the number of operators and the volume of the work area, the type of brazing alloy used, the quality and amount of ventilation, the position of the operator's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). When the flux and the filler metal are consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 1. Fume and gas decomposition products from the brazing alloy and flux not just the ingredients are important. The concentration of a given fume or a given fume or gas component may decrease by many times the original concentration. Also, new compounds may form. Decompositon products of normal operation include those originating from the volitilization reaction, or oxidation of the wire or rods and flux plus those from the base metal and coating, etc., as noted above.

SECTION 7 - SPILL OR LEAK PROCEDURES

Spill or Leak Procedures - Large spills should be neutralized with a slaked lime-soda ash slurry. Follow Federal, State, and Local regulations for disposal.